



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,253	09/08/2003	Michael J. Hawthorne	509/35644D	8600

7590 09/08/2006  
**BARNES & THORNBURG**  
Suite 900  
750 17th Street, N.W.  
Washington, DC 20006

EXAMINER

LUU, CUONG V

ART UNIT	PAPER NUMBER
2128	

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/656,253	Applicant(s) HAWTHORNE ET AL.	
	Examiner Cuong V. Luu	Art Unit 2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Claims 1-15 are pending. Claims 1-15 have been examined. Claims 1-15 have been rejected.

The Examiner would like to thank the Applicant for the well-presented response, which was useful in the examination, proves. The Examiner appreciates the effort to perform a careful analysis and make appropriate amendments to the claims.

#### ***Response to Amendment***

1. The amendments to claim 10 due to the typographical error have been considered and accepted.

#### ***Response to Arguments***

2. Applicant's arguments, filed 6/12/2006, see page 2, regarding claim 1 have been fully considered but they are not persuasive. The applicants say that Mosier does not teach "automatically adjusting the parameters of the simulator until the data of the simulator matches the data from the train". Mosier teaches using car (train) data such as train velocity, grade and curves values to calculate rolling resistance, a parameter in train model; updating this parameter in the simulation model to determine braking forces if brake is applied; and determining pulling force (col. 17, lines 30-59). These teachings are regarded as adjusting automatically parameters (rolling resistance and pulling force) of the simulator. Since measured data from train are used for calculating and adjusting these parameters, it is considered as until data of simulator matches the data from the train. Therefore, Mosier anticipates "automatically adjusting the parameters of the simulator until the data of the simulator matches the data from the train". Claim 1, as a result, remains rejected.

Art Unit: 2128

3. Applicant's arguments, filed 6/12/2006, see pages 2-3, regarding claim 10 have been fully considered but they are not persuasive. Claim 10 is not different from claim 1. It is only a rephrase of claim 1. Claim 10, therefore, remains rejected for the same reasons discussed in item 2 above.
4. Applicant's arguments, filed 6/12/2006, see page 3, regarding claim 4 have been fully considered but they are not persuasive. The applicants argue that the area noted on col. 8, lines 32-35 with exceptions to scheduling has nothing to do with comparing real time operational data of the train in a simulator. It is noted that the limitation in claim 4 is "the analysis includes identifying anomalies in the inputted data and reporting the anomalies". Matheson et al teach monitoring anomalies for exception handling to resolve them (col. 8, lines 32-35), which is assisted by received and/or measured data indicating the prevailing wind and track conditions, the current position, the current time, the current velocity of the train along with the brake pup pressure (col. 33, lines 20-29). These teachings are regarded as analysis of the inputted data for identifying anomalies and reporting the anomalies.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph.**

5. Claims 1 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission

Art Unit: 2128

amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

The omitted structural cooperative relationship is: the structure in connection with the simulator to perform the "automatically adjusting" of parameters of the simulator.

6. Claims 2-9 and 11-15 respectively inherit the defectives of claims 1 and 10.

***Claim Rejections - 35 USC § 102***

**Claims 1-2, 5-7, 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Mosier (U.S. Patent 4,041,283).**

7. As per claim 1, Mosier teaches a method of adjusting a simulator comprising:

inputting the data from a train into the simulator (col. 17, lines 10-14);

operating the simulator with the data (the abstract); and

adjusting automatically parameters of the simulator until data of the simulator matches the data from the train (col. 17, lines 30-59. Mosier teaches using car (train) data such as train velocity, grade and curves values to calculate rolling resistance, a parameter in train model; updating this parameter in the simulation model to determine braking forces if brake is applied; and determining pulling force. These teachings are regarded as adjusting automatically parameters (rolling resistance and pulling force) of the simulator. Since measured data from train are used for calculating and adjusting these parameters, it is considered as until data of simulator matches the data from the train. Therefore, Mosier anticipates "automatically adjusting the parameters of the simulator until the data of the simulator matches the data from the train").

Art Unit: 2128

1. As per claim 2, Mosier teaches the parameters including grade resistance, curve resistance, rolling resistance, (col. 12, lines 11-18).
2. As per claim 5, Mosier teaches adjusting the parameters includes comparing the simulator data and the train data during a change of velocity (col. 18, lines 43-52. The discussion updating train's speed and updating profile data in these lines suggest periodic comparison of simulator data and train data corresponding with speed of the train. Therefore, it reads on the limitation of this claim).
3. As per claim 6, Mosier teaches the train data is from an event recorder on the train (col. 17, lines 11-14, 22-29. These lines suggest that data is recorded from the train) and adjusting the parameters includes comparing the simulator data and the event recorder data during one or more trip features including: curves, grades, braking and throttle changes (this limitation has already been discussed in claim 5).
4. As per claim 7, these limitations have already been discussed in claims 1 and 5. They are, therefore, rejected for the same reasons.
5. As per claim 10, these limitations have already been discussed in claim 1. They are, therefore, rejected for the same reasons.
6. As per claim 11, these limitations have already been discussed in claim 2. They are, therefore, rejected for the same reasons.

7. As per claim 12, these limitations have already been discussed in claim 3. They are, therefore, rejected for the same reasons.
8. As per claim 13, these limitations have already been discussed in claim 6. They are, therefore, rejected for the same reasons.
9. As per claim 14, these limitations have already been discussed in claim 6. They are, therefore, rejected for the same reasons.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2128

**Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mosier as applied to claim 1 above, and further in view of Lynch et al (U.S. Patent 4,794,548).**

10. As per claim 3, Mosier does not teach analyzing the inputted data on the simulator after adjusting of the parameters.

Lynch et al teach this feature (col. 7, lines 47-54).

It would have been obvious to one of ordinary skill in the art to combine the teachings of Mosier and Lynch et al. Lynch et al's teachings would have helped plan and operate trains with optimum performance (Mosier's col. 1, lines 21-25).

**Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mosier as applied to claim 1 above, and further in view of Lynch et al and Matheson et al (U.S. Patent 5,794,172).**

11. As per claim 4, Mosier and Lynch et al do not teach the analysis includes identifying anomalies in the inputted data and reporting the anomalies.

Matheson et al teach this feature (col. 8, lines 32-35).

It would have been obvious to one of ordinary skill in the art to combine the teachings of Mosier, Lynch et al, and Matheson et al. Matheson et al's teachings would have been used in the control of or to automatically control the movement of trains through the system (the abstract).

**Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mosier as applied to claim 1 above, and further in view of Herzberg et al (U.S. Patent 5,023,791).**



Art Unit: 2128

12. As per claim 8, Mosier does not teach providing a simulator on the train.

Herzberg et al teach a flight simulator on the plane (col. 4, lines 41-48).

It would have been obvious to one of ordinary skill in the art to combine the teachings of Mosier and Herzberg et al. Herzberg et al's teachings would have enabled simulation of in-operation conditions of the train (col. 4, lines 41-45).

**Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mosier as applied to claims 1 and 8 above, and further in view of Herzberg et al and Lynch et al.**

13. As per claim 9, Mosier and Herzberg et al do not teach storing the adjusted parameters with the data of the train on an event recorder on the train.

Lynch et al teach this feature (col. 7, lines 34-54).

It would have been obvious to one of ordinary skill in the art to combine the teachings of Mosier, Herzberg et al, and Lynch et al. Lynch et al's teachings would have compiled data to be analyzed later.

**Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mosier as applied to claims 10 and 13 above, and further in view of Lynch et al.**

14. As per claim 15, these limitations have already been discussed in claim 9. They are, therefore, rejected for the same reasons.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cuong V. Luu whose telephone number is 571-272-8572. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah, can be reached on 571-272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. An inquiry of a general nature or relating to the status of this application should be directed to the TC2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CVL

  
KAMINI SHAH  
SUPERVISORY PATENT EXAMINER